Book review

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New diagnostic techniques in breast pathology

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This book is part of CEEX 228/2006 project and represents a practical guide, edited by ProfessorViorela Enăchescu.

Many prestigious authors have contributed to this book, among them Dominique Amy from the Imagistic Medical Center Aix-en-Provence and Michel Teboul from the Imagistic Medical Center, Paris, France.

The book is structured in 15 chapters, each for a specific domain, offering a constructive lecture, in which information is easy to follow.

In chapter 1 the anatomy and physiology of the breast are presented, which constitutes the basic knowledge in understanding the imagistic elements

Chapter 2 deals with the study of tumor markers, focusing on CA 27-29 antigen, usually associated with breast cancer, although it might be found in other neoplasms.

Chapter 3 refers to the imunohistochemical techniques in the diagnosis of biphasic breast tumors. The diagnosis of phyllodes tumors is presented and the role of imunohistochemistry in these types of tumors is reiterated.

In chapter 4 the contribution of imunohistochemical techniques to the diagnosis and prognosis of breast carcinoma is described. The role of estrogen hormones in this cancer and the influence of steroid hormone's receptors in prognosis are emphasized.

In chapter 5 the basic anatomic structures of the breasts and how they are related to the sonographic layers of adipose tissue, muscles, lymph nodes and blood vessels are presented. The lobular unit is described and analyzed. Ultrasound examination techniques include the classical quadrant method (antiradial) and the clock face (radial) method.

In chapter 6 the authors try to present the differentiation criteria of benign and malignant breast lesions by using conventional and Doppler ultrasonography. The ultrasonographic criteria of malignancy are presented. Malignant tumors of the breast can be evidenced by their dimensions, presence of lymph nodes and extension to adipose tissue. This chapter reviews benign and malignant breast masses, describing the feature of each pathologic entity.

In the next chapter, written by Michel Teboul, the advantages of ductal ultrasonography over conventional imaging techniques are revealed. The author of this chapterevaluates this technique as the principal method for anatomically-conducted evaluation of the breast. He concludes that ductal ultrasonography offers better quantitative and qualitative information, when compared to radiology and conventional ultrasound.

In chapter 8, Dominique Amy presents extensively the clock face scanning technique. The chapter has an important practical connotation, especially for beginners.

Chapter 9 deals with normal and pathological issues concerning benign and malignant masses in ductal ultrasonography. The authors reiterate the importance of ductal ultrasonography. The value of Doppler and 3D – 4D examinations is reassessed. The question "if the premalignant lesions exist?" is now answered. Yes, there are intermediate forms, between benign and malignant lesions, with long evolution, in a significant number of cases. A part of this chapter compares two classifications, US BI-RADS versus BI-RADS mammographic classification. Additionally, the chapter is richly illustrated.

The following chapter treats Doppler information in ductal ultrasonography, as an alternative method to breast ultrasound elastography and magnetic resonance for prediction of malignancy. In conclusion, the authors reiterate the role of pathologically proved angiogenesis and discuss the usefulness of different techniques to reveal it: ultrasound, magnetic resonance, PET-scan. Breast elastography is presented, with the emphasis on its role in predicting malignancy.

In chapter 11 the indications of mammography and

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breast sonography are presented. Although mammography is generally accepted as a standard screening method, there are situations when a dense structure of breast parenchyma precludes visualization of a tumor.

In the next chapter, the mammographic aspects of micro calcifications in breast masses are presented. The first classificationdevised in 1976, elaborated by Le Gal, with its well-known five types, is compared to the Lanyi classification, in 1979 and with BI-RADS classification. The authors present an original study, in which 377 patients were enrolled and 650 mammographies

In chapter 13 the role of magnetic resonance and computed tomography in breast cancer stadialisation is discussed. The authors conclude that magnetic resonance should be considered a complementary technique to mammography and echography.

In the next chapter the role of breast ultrasound in the follow-up of breast cancer is evaluated. The follow-up protocol, before surgery and after intervention, on short, medium and long term is provided.

The final chapter deals with the screening methods for breast cancer. The importance of clinical, laboratory (tumoral markers) and imagistic evaluation is emphasized, with recognition of the central position of the generalist. In conclusion, the best screening approach is a combination of clinical examination, mammography, breast ultrasound and, for a high index of suspicion, echo-guided biopsy. In the end, some prophylactic methods are presented.

All chapters have recent, highly important bibliographic references. The graphic presentation is exquisite, with a great number of images, black and white and also colored, offering a combination of basic knowledge and last hour information concerning breast diseases.

As a result, Professor Viorela Enachescu, the coordinator of this edition, provides an important practical guide for the sonographers, equally useful for the beginners and for the experienced, who wish to update their knowledge, by learning a new helpful technique to elucidate the complex aspects of breast diseases.

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